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                RAW SEQUENCE LISTING              DATE: 11/05/2001
                PATENT APPLICATION:  US/09/619,310   TIME: 13:21:01

                Input Set : A:\2001-09-28 seqlist.ST25.txt
                Output Set: N:\CRF3\11022001\I619310.raw

        5 <110> APPLICANT: BioImage A/S
        7        Thastrup, Ole
       11 <120> TITLE OF INVENTION: Novel Florescent Proteins
       15 <130> FILE REFERENCE: 3759-0106P
C--> 19 <140> CURRENT APPLICATION NUMBER: US/09/619,310
C--> 21 <141> CURRENT FILING DATE: 2000-07-19
       25 <160> NUMBER OF SEQ ID NOS: 8
       29 <170> SOFTWARE: PatentIn version 3.1
       33 <210> SEQ ID NO: 1
       35 <211> LENGTH: 764
       37 <212> TYPE: DNA
       39 <213> ORGANISM: Aequorea victoria
       43 <220> FEATURE:
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       58 ctt gtt gaa tta gat ggc gat gtt aat ggg caa aaa ttc tct gtt agt        97
       59 Leu Val Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser
       60 15                  20                  25                  30
       62 gga gag ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt       145
       63 Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe
       64                     35                  40                  45
       66 att tgc act act ggg aag cta cct gtt cca tgg cca acg ctt gtc act       193
       67 Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr
       68                     50                  55                  60
       70 act ttc tct tat ggt gtt caa tgc ttt tca aga tac cca gat cat atg       241
       71 Thr Phe Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met
       72                 65                  70                  75
       74 aaa cag cat gac ttt ttc aag agt gcc atg ccc gaa ggt tat gta cag       289
       75 Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln
       76         80                  85                  90
       78 gaa aga act ata ttt tac aaa gat gac ggg aac tac aag aca cgt gct       337
       79 Glu Arg Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala
       80 95                  100                 105                 110
       82 gaa gtc aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa       385
       83 Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys
       84                     115                 120                 125
       86 ggt att gat ttt aaa gaa gat gga aac att ctt gga cac aaa atg gaa       433
       87 Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu
       88                     130                 135                 140
       90 tac aac tat aac tca cat aat gta tac atc atg gca gac aaa cca aag       481
       91 Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys
       92             145                 150                 155
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Input Set : A:\2001-09-28 seqlist.ST25.txt
Output Set: N:\CRF3\11022001\I619310.raw

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94  aat gga atc aaa gtt aac ttc aaa att aga cac aac att aaa gat gga        529
95  Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly
96      160                 165                 170
98  agc gtt caa tta gca gac cat tat caa caa aat act cca att ggc gat     .  577
99  Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp
100 175                 180                 185                 190
102 ggc cct gtc ctt tta cca gac aac cat tac ctg tcc acg caa tct gcc        625
103 Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala
104                 195                 200                 205
106 ctt tcc aaa gat ccc aac gaa aag aga gat cac atg atc ctt ctt gag        673
107 Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu
108                 210                 215                 220
110 ttt gta aca gct gct ggg att aca cat ggc atg gat gaa cta tac aaa        721
111 Phe Val Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
112             225                 230                 235
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119 <211> LENGTH: 238
121 <212> TYPE: PRT
123 <213> ORGANISM: Aequorea victoria
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134             20                  25                  30
137 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
138             35                  40                  45
141 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe
142         50                  55                  60
145 Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
146 65                  70                  75                  80
149 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
150                 85                  90                  95
153 Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
154                 100                 105                 110
157 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
158             115                 120                 125
161 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
162         130                 135                 140
165 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
166 145                 150                 155                 160
169 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val
170                 165                 170                 175
173 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
174             180                 185                 190
177 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
178             195                 200                 205
181 Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val
182         210                 215                 220
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RAW SEQUENCE LISTING                    DATE: 11/05/2001
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Input Set : A:\2001-09-28 seqlist.ST25.txt
Output Set: N:\CRF3\11022001\I619310.raw

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193 <212> TYPE: DNA
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199 <220> FEATURE:
201 <221> NAME/KEY: CDS
203 <222> LOCATION: (1)..(717)
205 <223> OTHER INFORMATION:
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211 Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val
212 1               5                   10                  15
214 gaa tta gat ggc gat gtt aat ggg caa aaa ttc tcc gtt agt gga gag          96
215 Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser Gly Glu
216             20                  25                  30
218 ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt att tgc         144
219 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
220         35                  40                  45
222 act act ggg aag cta cct gtt cca tgg cca acg ctt gtc act act ctc         192
223 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
224     50                  55                  60
226 tct cat ggt gtt caa tgc ttt tct aga tac cca gat cat atg aaa cag         240
227 Ser His Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
228 65                  70                  75                  80
230 cat gac ttt ttc aag agt gcc atg ccc gaa ggt tat gta cag gaa aga         288
231 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
232             85                  90                  95
234 act ata ttt tac aaa gat gac ggg aac tac aag aca cgt gct gaa gtc         336
235 Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
236             100                 105                 110
238 aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa ggt att         384
239 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
240         115                 120                 125
242 gat ttt aaa gaa gat gga aac att ctt gga cac aaa atg gaa tac aat         432
243 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
244     130                 135                 140
246 tat aac tca cat aat gta tac atc atg gca gac aaa cca aag aat ggc         480
247 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
248 145                 150                 155                 160
250 atc aaa gtt aac ttc aaa att aga cac aac att aaa gat gga agc gtt         528
251 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val
252             165                 170                 175
254 caa tta gca gac cat tat caa caa aat act cca att ggc gat ggc cct         576
255 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
256             180                 185                 190
258 gtc ctt tta cca gac aac cat tac ctg tcc acg caa tct gcc ctt tcc         624
259 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
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RAW SEQUENCE LISTING                    DATE: 11/05/2001
PATENT APPLICATION:   US/09/619,310     TIME: 13:21:01

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Output Set: N:\CRF3\11022001\I619310.raw

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260          195              · 200              205
262 aaa gat ccc aac gaa aag aga gat cac atg atc ctt ctt gag ttt· gta      672
263 Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val
264      210              215              , 220
266 aca gct gct ggg att aca cat ggc atg gat gaa cta tac aaa taa          717
267 Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
268 225              230              235
270 atgtccagac ttccaattga cactaaaggg atccgaattc                           757
273 <210> SEQ ID NO: 4
275 <211> LENGTH: 238 ·
277 <212> TYPE: PRT
279 <213> ORGANISM: Aequorea victoria
283 <400> SEQUENCE: 4
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286 1              5              10              15
289 Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser Gly Glu
290              20              25              30
293 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
294              35              40              45
297 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
298      50              55              60
301 Ser His Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
302 65              70              75              .        80
305 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
306              85              90              95
309 Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
310              100              105              110
313 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
314              115              120              125
317 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
318      130              135              140
321 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
322 145              150              155              160
325 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val
326              165              170              175
329 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
330              180              185              190
333 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
334              195              200              205
337 Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val
338      210              215              220
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342 225              230              235
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347 <211> LENGTH: 817
349 <212> TYPE: DNA
351 <213> ORGANISM: Aequorea victoria
355 <220> FEATURE:
357 <221> NAME/KEY: CDS
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RAW SEQUENCE LISTING                    DATE: 11/05/2001
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361 <223> OTHER INFORMATION:
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368 1               5                   10                  15
370 gaa tta gat ggc gat gtt aat ggg caa aaa ttc tct gtt agt gga gag        96
371 Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser Gly Glu
372             20                  25                  30
374 ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt att tgc       144
375 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
376         35                  40                  45
378 act act ggg aag cta cct gtt cca tgg cca acg ctt gtc act act ctc       192
379 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
380     50                  55                  60
382 tct tat ggt gtt caa tgc ttt tct aga tac cca gat cat atg aaa cag       240
383 Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
384 65                  70                  75                  80
386 cat gac ttt ttc aag agt gcc atg ccc gaa ggt tat gta cag gaa aga       288
387 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
388                 85                  90                  95
390 act ata ttt tac aaa gat gac ggg aac tac aag aca cgt gct gaa gtc       336
391 Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
392             100                 105                 110
394 aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa ggt att       384
395 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
396         115                 120                 125
398 gat ttt aaa gaa gat gga aac att ctt gga cac aaa atg gaa tac aat       432
399 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
400     130                 135                 140
402 tat aac tca cat aat gta tac atc atg gca gac aaa cca aag aat ggc       480
403 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
404 145                 150                 155                 160
406 atg gaa tac aat tat aac tca cat aat gta tac atc atg gca gac aaa       528
407 Met Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys
408                 165                 170                 175
410 cca aag aat ggc atc aaa gtt aac ttc aaa att aga cac aac att aaa       576
411 Pro Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys
412             180                 185                 190
414 gat gga agc gtt caa tta gca gac cat tat caa caa aat act cca att       624
415 Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile
416         195                 200                 205
418 ggc gat ggc cct gtc ctt tta cca gac aac cat tac ctg tcc acg caa       672
419 Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln
420     210                 215                 220
422 tct gcc ctt tcc aaa gat ccc aac gaa aag aga gat cac atg atc ctt       720
423 Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu
424 225                 230                 235                 240
426 ctt gag ttt gta aca gct gct ggg att aca cat ggc atg gat gaa cta       768
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**VERIFICATION SUMMARY**                    DATE: 11/05/2001
PATENT APPLICATION:  US/09/619,310          TIME: 13:21:02

Input Set : A:\2001-09-28 seqlist.ST25.txt
Output Set: N:\CRF3\11022001\I619310.raw

L:19 M:270 C: Current Application Number differs, Replaced Current Application Number
L:21 M:271 C: Current Filing Date differs, Replaced Current Filing Date